REPORT No. 4

The Friedland, Rowan and Coward Reports: Comparisons, Contrasts and Commentaries

David W. Conklin, 1988

Public Sector Pensions Consultations

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1988

Ontario Public Sector Pensions Consultations

90-02913/

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Appendix

Public Sector Pensions Consultations

THE FRIEDLAND, ROWAN, AND COWARD REPORTS: COMPARISONS, CONTRASTS, AND COMMENTARIES*

July 18, 1988

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In considering the issues confronting the Public Sector Pensions Consultations, it is helpful to compare the Friedland, Rowan, and Coward Reports. On many of the issues, these reports provide alternative perspectives and alternative options. The following paper focuses on these issues where alternatives have been presented, and the paper clarifies the advantages and disadvantages of these alternative perspectives and options.

1. The Predictability of Outcomes

Underlying the Coward solution is the belief that outcomes can be estimated with sufficient precision to allow reasonable contribution rates to be established. Today's predictions can form the basis for long-term contribution rates. Both the government and the employees can be convinced to accept the predictions as the basis for their

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* The interpretations and opinions are those of the author and should not be attributed to the Public Sector Pensions Consultations or any other group or person.

contributions for the indefinite future. Any differences that may arise between these predictions and actual outcomes will be absorbed by the government either through additional payments to cover deficits or through withdrawal of surplus (or reductions in the government's contribution rates).

This perspective and belief is central to Mr. Coward's solution:

> After the members' contribution rate has been realistically established, the employer should pay the balance of cost as determined by actuarial valuations, being obliged to amortize any deficit and being entitled to benefit from any surplus (p .9).

One of the central themes of the Friedland Report is the unpredictability of outcomes because of the volatility of a number of key variables. For the Friedland Report, this unpredictability of outcomes explains the recent huge growth of surpluses, the substantial decrease in the purchasing power of defined benefits, and the consequent need for government to intervene. Furthermore, the nature of new government regulations should be constrained because of the inability at the present time to predict future costs and future variations in costs and funding. This perspective underlies the Friedland recommendations for only partial inflation protection as the minimum legislated requirement, for caps on annual adjustments, for no obligatory retroactivity, and for linking retroactivity with surpluses.

The Rowan Report shares the Friedland perspective concerning predictions of future rates of return. Rowan's suggestion for choosing

the appropriate rate of return is to rely on the rates of return that will develop in the marketplace for risk free assets (probably Treasury Bills). Employee contribution rates could be modified over time on the basis of these market rates of return for risk free assets. The risk-free interest rate would be used in costing and valuing pension plans. If the fund were invested in the market, the rate of investment earnings would likely exceed this risk-free interest rate and this excess would accrue to the government and would be a saving to the taxpayer.

It is important to note that the current pension arrangements place a cap of 8% on the inflation adjustment in any year. If the inflation rate exceeds 8%, then the excess is carried forward to be applied in a year when inflation is less than 8%. This approach has been generally accepted over the period since the 1975 introduction of automatic adjustments. However, it is not clear what would be appropriate if Canada were to experience inflation rates above 8% on a continual basis. Such a development might require a revision of the cap arrangement in Coward's opinion.

> A cap on the annual increases is needed to guard against the possibility of runaway inflation, at which time the government would undoubtedly intervene but should not have its hands tied. An 8% cap is reasonable because since 1924 the CPI increase has only exceeded 8% in the years 1947, 1948, 1951 and 1973-82 (Part III, p.8).

2. A Precise and Permanent Solution versus a Process for Modifying the Solution Over Time

The Coward Report presents a clear and definitive solution. A focus of the current consultations, from Coward's perspective, would be the

various factors that must be predicted, and the impact of these on future contribution rates. The Friedland and Rowan Reports suggest that the unpredictability of outcomes requires a solution whose elements may change over time. The Rowan Report focuses on the rate of return on risk free assets and suggests that variations in these returns could result in future modifications in the solution.

To the degree that one shares the Friedland the Rowan perspective, a focus of the current consultations would be the process for modifying the solution over time. This process could involve automatic adjustments in response to changes in some factors - such as rates of return - and discontinuous adjustments in response to changes in other factors - such as employee demographics. This process could involve a permanent review committee, or there could be an agreement to reconsider all elements of the solution at regular time intervals.

The Coward Report does suggest the possible need to alter the solution:

> (21) Members' contributions rates once determined for the combined basic and SAF funds should not be changed unless the benefits are increased or fundamental economic or demographic changes have occurred (Summary, p.9).

A central issue is to determine when fundamental economic or demographic changes have occurred, and hence when contribution rates should be changed. The Coward Report itself notes the historical variability of rates of return and wage and salary increases (Part V,

pp. 3-4). The difference between the choice of real rate of return in the Coward Report and in the Pesando paper ("Choosing the Real Rate of Return") emphasizes the unpredictability of this important factor. Implicit in the Coward Report is the possible need for infrequent modifications to the solution in future years. The timing, scope, and process for such modifications may deserve the attention of the Public Sector Pensions Consultations.

3. The Need to Invest Pension Funds in the Market as Opposed to Government Debentures

In the design of pension arrangements, the only economic or financial purpose for investing the pension funds in the market is to establish the rate of return that can be used to adjust future employee contributions or benefits. The Coward solution does not depend upon the investment of pension funds in the market. The Coward solution is unaffected by whether or not pension funds are invested in the market. This point deserves careful attention. If the government adopts the Coward solution, it is not necessary to invest the funds in the market. The issue of investing in the market should be considered on its own merits. The government would have to increase its debt borrowing in the marketplace in order to lend more to the marketplace. The lending would involve the purchase of equities. The advisability of government borrowing more in order to lend more should be considered on its own merits, if the Coward solution is chosen.

Even if it is considered desirable to link contribution rates with

market rates of return, there is still no need to invest the funds in the market. Automatic adjustment of contribution rates and benefits could be based on the return to a prescribed market portfolio. It would not be necessary to own the portfolio. Justification for actually owning a market portfolio has to be based on political reasoning, such as the need for employees to accept the portfolio results as the valid basis for future adjustments. However, it should be noted that education of employees in regard to this subject may be less costly than the administrative and commission expenses of actually investing in the market.

It is important to note that also in the Rowan Report the investment of pension funds in the market has no direct impact on the pension arrangements. The Rowan solution would use the rate of return on Treasury Bills or some other risk free asset as the basis for actuarial estimates of required contribution rates. If actual Treasury Bill rates varied from the projected estimates of these rates, then the resulting surplus or deficit would belong to the employees. It is unnecessary to invest in the market in order to ascertain the Treasury Bill rate and in order to make the actuarial calculations and adjustments in the pension plans. The Rowan Report did not anticipate that the fund would be invested in Treasury bills. If the fund were invested in the market, then the rate of investment earnings would likely exceed the risk-free interest rate, and this excess would accrue to the government and would be a saving to the taxpayer.

The Rowan recommendation to invest pension funds in the market is solely a public finance issue. The Rowan Report argues that any surplus that arises from this process should belong only to the government; any deficit should be paid only by the government. Market rates of return would not be used in any way to alter employee contribution rates or benefits.

In regard to the public finance perspective, it could be noted that government does not need a pension fund in order to increase its revenue in the manner recommended in the Rowan Report. The government can issue debt at any time, use the debt to invest in the market, and gain the resultant revenue. So long as the government borrowing rate is below the rate of return gained in the market, this process will yield a net revenue. Whether such a process is desirable is a different question, not addressed in the Rowan Report. Whether such a process truly benefits taxpayers is, consequently, not as clear as is suggested in the Rowan Report.

4. The Desire of Employees for a Certain Stipulated Benefit as Opposed to a Market Related Benefit

The Coward solution offers employees the certainty of a stipulated benefit, with government absorbing any deficits and owning any surpluses. An important subject is the desire of employees to share the additional risks and rewards involved in the choice of a less certain benefit. The Rowan solution entails employee acceptance of risk that the future

contribution rates and any deficit/surplus in which they share may change in response to market changes in the return to risk free assets such as Treasury bills.

The employee may prefer a benefit that entails some risk and uncertainty, but which may offer the possibility of a higher annual payment. It could be argued that the employee or representative should be given this choice. A variety of solutions could be devised to provide for the sharing of risks and rewards. Contribution rates could vary, depending on the fund's rate of return. Alternatively, the pension benefit could be partly a defined benefit and partly a defined contribution. Alternatively, an "excess interest" formula could be implemented as a way of exposing employees to higher risks and rewards. Here one can see the usefulness of an "excess interest" approach, and the inappropriateness of much established criticism of the excess interest approach.

Generally, critics have dismissed the excess interest approach because returns will not follow the rate of inflation closely. Mr. Coward has repeated this argument, and has noted that "[t]he only way to produce pension increases approximately equal to the inflation rate is to invest the fund in Treasury bills or short-term bonds; such investments tend to reduce the return on the fund".

The key point, however, is that excess interest offers the employee the option of a higher return with higher risk and uncertainty than does

the guaranteed annuity, fully indexed. The employee wanting an excess interest approach may consciously prefer a return that obviously cannot track inflation closely, since the return is based on the return to equities and/or bonds. The Treasury Bill solution may be less desirable from this perspective.

An excess interest formula may have most appeal in regard to the time period following an employee's termination. For post-termination funds and pensions in pay, one can see the excess interest approach as a constrained defined contribution approach. In return for the defined contribution on termination of the commuted value of the government's promised benefit, the employee could receive a benefit that would vary with the overall fund performance (or the performance of an external benchmark portfolio), with the constraint that a certain base rate is guaranteed. A fund return that exceeds the government's actuarial projections and that would result in a surplus under Mr. Coward's solution would, under an excess interest approach, belong to the employee. The degree of risk and uncertainty for the employee would depend upon the guaranteed base rate, as would the risk that the government would have to contribute towards possible future deficits.

The possibility exists, of course, that the private sector might offer such an excess interest approach in response to employee preferences, quite apart from a decision for the government to offer such an option. The private sector offers a variety of investment vehicles where the pension is adjusted to reflect market rates of return. An

important question is whether the employee should be able on termination to withdraw the commuted value of the pension and should be able to invest it in a higher risk-reward annuity of such a type, or to transfer these funds to a self-administered RRSP.

A related point is that the pension benefit promised within the current plans is based upon only one organization's calculations and projections. A competitive bidding might offer the employee a better deal. Within the context of a guaranteed benefit where the guarantor pays any deficit and retains any surplus, the employee might receive a more lucrative proposal from a life insurance company. That is, once the commuted value of the benefit has been calculated on termination, a life insurance company might offer a higher fully indexed annuity than that based on the government's benefit formula. It could be argued that the employee or representative should be given the opportunity to survey the market for this purpose. At the same time, it must be recognized that the provision of such choices may negatively impact the financial security of the fund as a whole, requiring additional contributions to balance the advantages gained by the individual.

5. The Sharing of Costs Between the Employer and Employees

The Coward Report suggests that the nominal or legislated division of costs between the employer and employee represents the actual sharing of costs. While Coward sees considerable merit in continuing the past 50/50 sharing, his principal conclusions could be adapted to an alternative nominal division. Regardless of the nominal division, there is no

explicit acknowledgement in the Coward Report that pension costs may be part of the total compensation package and, consequently, that higher pension costs may alter future wage settlements or hiring practices. A central theme of the Friedland Report, articulated in Trossman's research study, Market Shifting of the Costs of Inflation Protection, is that a government decree of a particular cost-sharing formula may not be effective or even meaningful. In many employment situations, both employer and employee realize that hiring and remuneration decisions must be based on the total compensation package. An increase in pension costs will be offset by a reduction in some other elements of the compensation package. Some recent union negotiations where automatic indexation has been achieved have explicitly acknowledged the acceptance of a lower wage increase than would otherwise be appropriate. In practice, the actual cost division will depend upon market shifting of these costs and the particular market circumstances for the hiring of labour and for the ability of the employer to pass its costs on to customers in the form of higher prices. Hence a useful focus for analysis is the actual market situation for the public sector pension agreements, and the ultimate result when increased pension costs have been shifted, largely or entirely onto employees through lower wages than they would otherwise receive.

The Rowan Report states that its recommendations are designed "to emphasize that pensions are part of total compensation and should not be dealt with in isolation." However, the Rowan Report does not pursue all the implications of this perspective.

The Coward solution envisages a substantial increase in contribution rates. Will this not affect future wage settlements? If employees realize that they in fact will have to experience higher employee contribution rates and also lower wage settlements to offset higher employer contribution rates, will employees really want such an expensive pension package? This perspective deserves the attention of the public sector pension consultations.

6. Retroactivity

The Friedland Report recognizes that retroactive adjustments are significantly different from prospective adjustments. One reason for this difference is that the costs of prospective pension adjustments can be addressed in future wage negotiations and pricing decisions, with compensating adjustments in the latter. Current and future wage negotiations and pricing decisions cannot be adjusted as readily to compensate for retroactive pension adjustments. Retroactive pension adjustments include all adjustments in regard to accrued benefits. At issue are not only the accrued benefits of those currently retired but also the accrued benefits of those currently working. It may consequently be important for the public sector pension consultations to address the prospective and retroactive elements separately. How should retroactive cost increases be divided between the government and employees? What should future contribution rates be expected to cover in this regard? The Coward Report treats separately the unfunded liability for past service, and the funding and contribution rates for future

service.

7. Legal Issues in the Coward Solution

The Friedland Report emphasizes the role of the law in determining certain pension issues, and its Research Studies include several legal analyses. The Coward Report, on the other hand, does not include much of this perspective. The public sector pension consultations may wish to consider possible legal impediments to alternative solutions, including any legal impediments that may exist with the Coward solution.

From this perspective, it may be helpful to consider the companion paper "The Pension Benefits Act, 1987: Implications for the Public Sector Consultations". The following remarks are taken from that paper.

Sections 69-78 of the Act deal with the wind up of pension plans and Sections 79 and 80 deal with payment of surplus to the employer. Mr. Coward has recommended that "[c]hanges to amalgamate the PSSF and TSF with the corresponding SAFs and to reorganize the funding should be made with a minimum of delay" (Summary, p.6). This could involve using existing surpluses from the PSSF and TSF to pay for existing deficits in the SAFs. It may be important to consider the implications of the Act for this reorganization, quite apart from the legality of this procedure in the context of current judicial decisions and legal opinions.

Because of the recent emergence of substantial surpluses in some defined benefit plans, and the uncertainty regarding entitlement to

surplus created by conflicting plan provisions and court judgements, the government has recognized the necessity to formulate a consistent policy with respect to surplus refunds. The Task Force on Inflation Protection addressed this issue in its recommendations. As of February 9, 1986, until such time as a policy is formulated and in place, the Commission is prohibited from giving its consent to any refunds of surplus to an employer from an ongoing plan. Refunds on wind up or partial wind up had been permitted as outlined in PBA 1987, and Regulations. However, as of February 10, 1988, even these refunds on wind up or partial wind up have been prohibited by Section 7(a) of the Regulations until government policy is enacted in amendments to PBA 1987.

These new provisions of PBA 1987 dealing with surplus have emphasized the requirement that the employer must have explicit entitlement to surplus assets documented in the plan in order to have access to those assets. However, this clarification of ownership of surpluses deals only with the surpluses that accumulate after 1/1/1987. For surpluses that accumulated prior to 1/1/1987, recourse to the courts may still be necessary to determine ownership, and new government legislation may also impact this issue.

It should be noted in this regard that the basic funds and the inflation adjustment funds are separate and have been maintained under separate acts. The provisions within these acts appear to differ, as do actual practices pursuant to these acts.

8. Inflation Protection Pre-Termination Provided by the Benefit Formula

The Friedland Report devotes considerable attention to the degree to which pre-termination inflation protection is provided by alternative defined benefit formulas. This aspect of the public service pensions may deserve more attention than is provided in the Coward Report.

As noted in the Coward Report, the higher the rate of inflation, the less is the degree of pre-termination inflation protection. The important point is that the defined benefit is based on the average income of the 60 months when the employee's income is highest. With a high inflation rate and high wage settlements, this average income will be considerably below the employee's income at termination. A shift within the formula to the average income of the 12 months when the employee's income is highest would considerably increase the degree of pre-termination inflation protection. However, at the same time, this would considerably increase the costs of the plans. Alternatively, each of the last 5 years earnings could be increased by the percentage increase in the CPI prior to retirement and then the adjusted earnings could be averaged.

At the present time, the employee is given less than 100% pre-termination inflation protection. Since the inflation rate may vary considerably over time, the degree of pre-termination inflation protection will vary considerably from one employee to another, depending on the rate of inflation and rate of wage increases during the 60 months prior to the employee's termination date. This pre-termination

protection contrasts with the current 100% post-termination inflation protection. In the consultations, it may be appropriate to consider whether this balance should be altered, with a shift towards the final 12 months income as the base, or with a CPI-related adjustment to the last 60 months earnings, and with a post-termination formula of less than 100%.

9. Section 40 of the Pension Benefits Act, and the 50% Rule

The Friedland Report places considerable emphasis on Section 40 and the 50% Rule of the Pension Benefits Act, 1987. A research study by Professor Pesando also focuses on this issue. In line with this perspective, public sector pensions consultations may wish to place more emphasis on this than is provided in the Coward Report. Again, the following comments are from the companion paper, "The Pension Benefits Act, 1987: Implications for the Public Sector Pensions Consultations".

The financial impact of this reform will vary depending upon the plan's provisions and also depending upon the age of the employee at termination of membership or employment. For most plans, the value of pension benefit accruals increases sharply with age, particularly if high inflation rates are assumed; and the percentage of a member's benefit purchased by the member's own contributions decreases sharply with age.

A research report* by Professor James Pesando illustrates this point. For a representative plan and 10% inflation, Pesando has indicated in Table 1 that the commuted value of the benefit earned while the employee is 45 years of age is only 1% of income, or less for an unindexed benefit, and 3% of income or less for a fully indexed benefit. It is only while the employee is 56 or 57 years of age that the commuted value of the benefit earned reaches 5%-10% of the employee's income for an unindexed benefit, and 10%-20% of income for a fully indexed benefit. While the employee is 62 or 63 years of age, the commuted value of the benefit earned may reach 15%-30% of the employee's income for an unindexed benefit, and 30%-60% of income for a fully indexed benefit.

In such a plan, if the employee terminates employment at an early age, the refund of excess contributions may be substantial, even if the employee retains plan membership and the right to the deferred pension. Hence, early terminations may impact the plan's funding.

For an employee hired at a late age, the employer may ultimately have to pay more than 50% of the cost of the benefit even though the annual contributions are equal for the employee and the employer. Hence, to the degree that an employer hires older employees, the employer cost of an equal contribution plan will exceed 50%, and supplementary payments will have to be made from time to time. From the employee's perspective, switching from one employer to another in mid-career may provide an

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* See James Pesando, "Assessment of Alternative Formulas for Delivering Inflation Protection," Task Force on Inflation Protection for Employment Pension Plans. Volume 1. pp. 181-187.

Table 1

PENSION BENEFITS ACCRUED (AS A FRACTION OF WAGE) FOR MEMBER OF A REPRESENTATIVE PENSION PLAN*

	No Inflation**		High Inflation**			
			Nominal Pension Benefit		Fully Indexed Pension Benefit	
Age	Early Entrant	Late Entrant	Early Entrant	Late Entrant	Early Entrant	Late Entrant
45	0.10	0.00	0.01	0.00	0.03	0.00
46	0.10	0.00	0.02	0.00	0.03	0.00
47	0.11	0.16	0.02	0.01	0.04	0.03
48	0.12	0.09	0.02	0.01	0.05	0.02
49	0.12	0.09	0.03	0.01	0.06	0.02
50	0.13	0.10	0.03	0.01	0.07	0.03
51	0.14	0.10	0.04	0.02	0.08	0.04
52	0.15	0.11	0.04	0.02	0.09	0.05
53	0.16	0.12	0.05	0.03	0.11	0.06
54	0.17	0.13	0.06	0.03	0.13	0.07
55	0.18	0.13	0.07	0.04	0.16	0.08
56	0.19	0.14	0.09	0.05	0.19	0.10
57	0.21	0.16	0.10	0.06	0.22	0.12
58	0.22	0.17	0.12	0.07	0.26	0.15
59	0.24	0.18	0.15	0.09	0.31	0.18
60	0.26	0.20	0.17	0.10	0.37	0.22
61	0.29	0.21	0.21	0.13	0.44	0.27
62	0.31	0.23	0.25	0.15	0.53	0.32
63	0.34	0.25	0.30	0.18	0.63	0.39
64	0.38	0.28	0.35	0.22	0.76	0.48
65	0.41	0.31	0.43	0.27	0.91	0.58

* Details of the pension plans are as follows: 1) the benefit is nominal and equals 1.4% of final 3-year average earnings up to YMPE and 2% for earnings in excess of YMPE; 2) normal retirement age is 65; 3) vesting is after 2 years of service; 4) early retirement is at age 55 and 10 years of service, with actuarial reduction of accrued benefits;
5) there is no special retirement provision; 6) if member opts for postponed retirement, benefits continue to accrue but previously accrued benefits are not actuarially increased.

** The real rate of interest is 3% and the rate of growth of real wages is 2%. The rate of inflation is zero in the 'No Inflation' scenario, and 10% in the 'High Inflation' scenario. The early entrant commences employment with the sponsoring firm when he is age 30. The late entrant commences employment with the sponsoring firm when he reaches ages 45.

aggregate benefit more than twice the value of the employee's aggregate contributions plus interest, even if both plans require annual contributions that are equal for the employee and employer.

It should be noted that Section 58 of the Regulations provides that "Subsection 40(3) of the Act does not apply to the transfer of money or credits from one pension plan to another plan in accordance with a reciprocal transfer agreement." By entering reciprocal transfer agreements with other plans, an employer may reduce its exposure to paying for more than 50% of the benefits as a result of terminations of younger employees and hirings of older employees.

Section 21 of the Regulations prescribes the methods that may be used to calculate the interest to be applied to employee contributions. A defined benefit plan can provide for the use of either (a) the CANSIM series B rates for five-year personal fixed term chartered bank deposit rates; or (b) such rate of return as can reasonably be attributed to the pension fund or that part of the fund to which the contributions are made. For public sector pensions, the current plans do not provide for either (a) or (b) but staff have simply chosen to use (a) without explicit legal authorization in the plan documents. This choice is extremely important, and it impacts strongly on the issue of surplus. If (b) were chosen, then approximately 50% of any pre-termination surplus attributed to an actuarial underestimate of the fund rate of return would automatically go to the employee. The discount rate used to calculate the commuted value is also important in determining this division of

surplus. For example, if the discount rate used to calculate the commuted value is 10%, while the reserve held in the actuarial valuation is based upon a discount rate of 8%, then the employee's refund may come from the actuarial reserve, without reducing the plan's surplus. The significance of Section 40 of the Act and Section 21 of the Regulations will be affected by the rate of inflation and the degree to which actuarial projections accurately estimate the actual rates of return.

In regard to these implications, it appears that Section 40 of the Act and Section 21 of the Regulations should be considered in Laurence Coward's solution. Recommendation (22) of Mr. Coward's summary is a key recommendation which may be affected:

> After the members' contribution rate has been realistically established, the employer should pay the balance of cost as determined by actuarial valuations, being obliged to amortize any deficit and being entitled to benefit from any surplus (p. 9).

Consequently, it will be important to consider Section 40 of the Act and Section 21 of the Regulations when evaluating the advisability of adopting Mr. Coward's solution. Furthermore, these Sections have important implications for decisions in regard to hiring and rates of remuneration.

It is important to note that the funding practices for defined benefit plans mean that the employer's cost of providing a pension benefit can vary substantially among employees, depending on the age at which the employee is hired. To hire an employee at age 45 will cost the employer much more as a percentage of the employee's income than hiring

an employee at age 25. Prior to the 1987 Pension Reform Act, an employer could offset some or all of these higher costs through the gain the fund received when an employee terminated before retirement. The new Section 40 requirements limit the gains that the fund receives from early terminations. This perspective suggests that the impact of Section 40 may occur not only on terminations of young employees, but also on hirings of older employees. It suggests the significance of pension costs in the hiring decision.

A related issue that the Public Sector Pensions Consultations may wish to consider is the provision of an investment vehicle for excess employee contributions that are being refunded. Presumably employees might appreciate the creation of a new separate fund for these, or alternatively, the opportunity to purchase units of the new market investment fund if it is created.

10. Actuarial Calculations for Deferreds

Under PBA 1987, it will be necessary to calculate the commuted value of the future pension benefits whenever an employee terminates. The terminating employee has the right to require that this commuted value be transferred to an RRSP, a life insurance annuity, or another employer's plan (if the latter agrees to accept it). Alternatively, the terminating employee may leave the deferred pension benefits in the original plan. Even in the latter situation, it will be necessary to calculate the commuted value of the future benefits in order to comply with the new 50% rule.

Of very great importance are the assumptions used in these actuarial calculations to determine the commuted value of the future pension benefits. PBA 1987 requires that the actuarial assumptions be those issued by the Canadian Institute of Actuaries (C.I.A.), or such alternative assumptions as would yield a higher commuted value. A copy of the most recent C.I.A. recommendations is attached. It should be noted that these recommendations will yield commuted values which are to be the minimum commuted values. An actuary can use assumptions which yield higher commuted values than these would yield. Therefore, an essential issue concerns the actual assumptions to be used in the plan.

Also of significance is the degree to which deferred pension benefits are to be increased in step with inflation over the pre-retirement period. At this point in time, it appears that both the public service and the teachers plans provide 100% inflation protection over the pre-retirement period. This issue of inflation protection for deferreds is presented as very important in the Friedland Report, but appears not to be dealt with in the Coward and Rowan Reports, probably on the assumption that 100% inflation protection will be continued for deferreds. This assumption may deserve consideration.

11. Funding of Escalated Adjustments (Inflation Protection)

PBA, 1987 does not require any funding of escalated adjustments. Section 8 of the Regulations explicitly provides the following:

> 8. (1) The estimated future costs of the escalated adjustments of a pension plan that provides for escalated adjustments may be excluded from the funding requirements set out in sections 4, 5, and 6.

(2) The amount of a payment of an escalated adjustment that is made from the pension fund, to the extent that it has not been prefunded, shall be deemed to be part of the normal cost.

(3) For the purposes of a report required by section 10 or 11, factors attributable to an escalated adjustment may be excluded in determining the existence or amount of any going concern unfunded actuarial liability.

Both the Friedland and Coward Reports express the view that escalated adjustments should be prefunded. If the Friedland Report were adopted, Section 8 of the Regulations would be eliminated. This would require that either the teachers' and public service pension funds pre-fund inflation protection, or alternatively, that these funds be given a special exemption from any new pre-funding requirements.

The Friedland Report is concerned about the security of pension promises if the employer experiences financial difficulties; pre-funding is necessary to ensure this security. Mr. Coward believes that those who will receive pension benefits should pay for them, rather than relying upon the coming generation to pay, and that public sector pensions should be on the same basis as private sector pensions. In the past, the liabilities of the SAFs have been unrecognized. It is vital, in Mr. Coward's opinion, that there should be a full disclosure of costs and liabilities. An additional concern relates to the future security of the fund. Unlike a private employer, the risk of bankruptcy for the Ontario government is negligible, and so some people might not feel a need to fund the SAFs fully to ensure the future security of the fund. Yet even with the government's backing of the SAFs, Coward expressed a concern. In view of the matching contribution precedent, the question arises

whether a future generation of employees will pay the much higher contribution rate that will be required if the SAFs remain on a pay-as-you-go basis.

> If the contributions to the SAFs are not increased until the funds are exhausted the matched contribution rate would then jump from 1% of salary to about 2.6% for public servants and to about 4.4% for teachers. This would not be the end of the story, for the projections indicate that in the year 2019 contributions would be required at the rate of about 4.3% for public servants and 6.9% for teachers. Hence very large contribution increases would be required at the time when the rate of anticipated inflation might be much less than it is today. If this were so the government might find it impossible to get the employees, as a group, to pay half the cost of the indexation.

12. The Possibility of Partial Indexing Instead of 100% Inflation Protection

The Coward Report expects that the 100% inflation protection will be continued. However, it will likely be many years before another opportunity arises to restructure the public service and teachers' pension plans. This, then, is the only time for many years when the inflation protection formula can be seriously considered, with the possibility of altering it. From this perspective, the Friedland Report is particularly helpful.

A central finding of the Friedland Report is that a pension plan with 100% inflation protection is very costly as a percentage of payroll, for most employees. In fact, the Coward Report estimates that the true cost of the public service and teachers plans is 18%-20% of payroll, plus existing unfunded liabilities.

Faced with the reality of these high costs, it may be desirable from the employees' perspective to opt for a lower indexing and a lower cost. A key issue is the degree to which the employees will bear these costs through lower wage rates than they would otherwise receive. If the employees do bear these costs - at least to some degree - then it may be desirable to opt for a lower indexing and a lower cost. Alternatively, the government, faced with the reality of these high costs, may wish to modify other elements of the compensation package so as to make public and private sector compensation more comparable.

In considering partial indexing, the Friedland Report presents analyses of a variety of alternative formulas. It should be noted that the Coward Report also analyses alternative formulas in Part III.

CANADIAN INSTITUTE OF ACTUARIES

RECOMMENDATIONS FOR THE COMPUTATION OF MINIMUM TRANSFER VALUES OF DEFERRED PENSIONS

INTRODUCTION

The Council of the Canadian Institute of Actuaries has approved the following recommendations for conduct of a member (hereinafter called "actuary") when engaged to compute, or recommend the basis to be used for the computation of, the minimum transfer value of a deferred pension. The values determined in accordance with these recommendations are minimum values for transfer purposes, but do not necessarily represent the only method of determining the value of a member's entitlement.

1.01 **Application**

These recommendations should be applied to the computation of minimum transfer values when the method of settlement is the payment of a cash transfer value in lieu of a deferred annuity, except in certain circumstances which are described below. The actuary using these recommendations should be aware of the content of any applicable pension standards legislation.

The recommendations apply to deferred annuities resulting from individual terminations of membership and deaths:

(a) in a jurisdiction whether or not there is legislation in that jurisdiction which specifically provides for portability of pension benefit credits;

(b) in a jurisdiction which prescribes minimum transfer values where the minimum transfer value determined using these recommendations exceeds the prescribed minimum transfer value;

(c) under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is either to establish a pension amount determined on a "money purchase" basis or to establish an account value for the plan member.

The recommendations do not apply:

(a) under a partial or complete plan termination;

(b) where a member terminates his membership after the age at which the member becomes eligible under the plan for an immediate pension;

(c) in a jurisdiction which prescribes minimum transfer values where the minimum transfer value determined using these recommendations is less than the prescribed minimum transfer value;

(d) under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is to provide defined pension benefits for the plan member;

(e) to the valuation and distribution of the pension benefit credits of a spouse as a result of divorce, marriage annulment or legal separation.

1.02 **General Principles**

The underlying principle in these recommendations is that the minimum transfer value should, to the extent possible, reflect financial market conditions. In view of the length of the period involved and the inherent complexities of financial markets, estimation of future market conditions is a difficult task and the transfer value arrived at by the actuary using these recommendations may ultimately be proven to have been either insufficient to produce the desired benefit or excessive.

The minimum transfer value computed by the application of these recommendations does not take account of the solvency of the pension plan. The actuary should consider whether an adjustment should be made to the minimum transfer value when the plan is less than fully funded on a plan termination basis, including any adjustments required by applicable pension legislation.

The minimum transfer value should be computed as of the date on which the member's right to elect a transfer became effective (hereinafter called "the computation date"), or such later date as may be appropriate in the circumstances.

The minimum transfer value must reflect the member's full benefit entitlement as a vested deferred pensioner, determined under the terms of the pension plan in effect at the date of termination of membership. The death benefit which would have applied before commencement of the deferred pension should be reflected. Where, at the computation date, a deferred pensioner has the unconditional right to optional forms of pension or optional commencement dates, the option which has the greatest value should be used in the determination of the minimum transfer value.

1.03 **Actuarial Assumptions**

There are many types of deferred pension but two distinct classes or types have to be considered separately. The two classes are:

- non-indexed deferred pensions
- indexed deferred pensions

(a) Demographic Assumptions

The demographic assumptions will be the same for all types of deferred pensions.

- **Mortality:** Unless a different table is considered more appropriate for a particular plan, a current universal table such as the GAM83 table should be used. While appropriate male and female rates would normally be applied, the actuary may be required to calculate transfer values that do not vary according to the sex of the member. In this case, an appropriate table reflecting the anticipated mortality of the combined group in question should be adopted.

- **Retirement age:** In most situation, the normal retirement age under the plan would be used. However, where the terminated member has the unconditional right to elect an earlier commencement date and the consequent early retirement pension exceeds the amount which is of actuarial equivalent value to the pension payable at normal retirement age, the minimum transfer value should reflect the extent of the subsidy.

- **Proportion married and age of spouse:** If the plan provides a contingent benefit to only the person who is the member's spouse at the date of termination of membership, the actual age of the spouse should be used in the computation. In the absence of this information, an appropriate age difference between the member and spouse should be assumed.

  Where the plan provides a contingent benefit to a member's spouse and a change in the member's marital status after the computation date is material to the determination of the minimum transfer value, the actuary should make an appropriate assumption concerning the likelihood of there being an eligible spouse, and the age of that spouse, at the time of death.

(b) Economic Assumptions

The economic assumptions will vary depending on whether the deferred pension is fully indexed, partially indexed or non-indexed. The minimum transfer value of a fully or partially indexed pension should be at least equal to the minimum transfer value applicable to a non-indexed pension in the same amount and having similar characteristics.

- For non-indexed pensions, the interest rate for the first fifteen years from the computation date should be calculated as the average of the month-end values of the average yield to maturity on long-term Government of Canada bonds (CANSIM series B14013) for the three calendar months commencing with the fourth month preceding the computation date, rounded up to the next multiple of 1/2%. After the first fifteen years, the rate should be 6%.

- For pensions which are fully indexed (i.e. where the pension increases by the same percentage as the Consumer Price Index) in both the deferred period and while in course of payment, the net rate of interest should be set initially as the average difference, rounded up to the next multiple of 1/2%, determined over a three calendar month period commencing with the fourth month preceding the computation date, between the month end value of the chartered bank typical five-year mortgage rate (CANSIM series B14051) for the month less 1/2%, and the rate of increase in the Consumer Price Index (CANSIM series D484000) during the 12-month period ending in the month. The initial rate should apply for the first year and should be reduced or increased in five level annual steps to a long-term net rate of 3 1/2% for the sixth and subsequent years.

- The assumption for pensions that are partially indexed should reflect the specific forms of partial indexing.

  (i) A pension that is indexed to a specified percentage of the Consumer Price Index should be valued by a geometric interpolation between the values that would apply if the pension was, respectively, a fully indexed pension and a non-indexed pension.

  (ii) A pension that is indexed to the Consumer Price Index less a fixed percentage rate should be valued using interest rates applicable to a fully indexed pension, as set out above, increased by the applicable fixed percentage rate.

  (iii) A pension that is indexed to the Consumer Price Index up to a fixed maximum should be valued using an interest rate that reflects the probability that the fixed maximum will apply. Thus if the fixed maximum was likely to be consistently attained, the pension should be valued as a non-indexed pension with fixed annual increments. If the fixed maximum is unlikely to be reached on many occasions, the pension should be valued as a fully-indexed pension.

  (iv) A pension that is indexed according to an excess interest approach, where increases are linked to a rate of return in excess of a base rate, should be valued using an interest rate equal to the base rate. The interest rate may be adjusted, or the pension valued partially as a non-indexed pension if the pension is not increased by the full amount of excess interest or is otherwise subject to a controlling maximum increase.

  (v) A deferred pension that is indexed only after the expiry of the deferred period should be valued using the interest rate applicable to a non-indexed pension during the deferred period and the interest rate applicable to the particular type of indexed pension after the commencement date of the pension.

  (vi) A deferred pension that is indexed only during the deferred period should be valued using the interest rate applicable to the paticular type of indexing in the deferred period, and the interest rate applicable to a non-indexed pension after the pension commences.

1.04 **Transfer after Date of Computation**

The minimum transfer value calculated in accordance with these recommendations should be adjusted for a reasonable market rate of interest between the computation date and the date of payment. The requirements of applicable legislation should be taken into account in determining this adjustment.

1.05 **Exceptional Situations**

While the recommendations are generally applicable, it is recognized that smaller transfer values may be justified in an exceptional situation. The actuary may accordingly modify the assumptions to reflect the unique nature of the situation. In such a case, the actuary should seek the advice of the Committee of the Institute appointed by Council to counsel members in such circumstances.

1.06 **Disclosure**

When communicating to the plan sponsor a transfer value which the actuary has computed, the actuary shall provide:

(a) a description of the actuarial basis used in determining the transfer value;

(b) when the transfer value has been reduced to reflect the solvency of the plan, the financial effect of this reduction and, where applicable, the recommended schedule for payment of the balance of the transfer value;

(c) a statement that the value has been computed in accordance with these recommendations.

When communicating to the plan sponsor an actuarial basis to be used in determining transfer values, the actuary shall provide a statement that the actuarial basis is in accordance with these recommendations.